KUZNETSOV, V.I.

Peripheral resistance and minute volume of the blood in acute radiation sickness. Med. rad. 6 no.2:40-46 '61. (MIRA 14:3)
(RADIATION SICKNESS) (BLOOD VOLUME)
(BLOOD CELLS)

KUZNETSOV, V.I., dotsent; KUSHAKOVSKII, M.S., kand.med.nauk; MIKHASEV, M.I. (Leningrad)

Antihypertensive activity of cystamine. Klin.med. 39 no.1:71-76 Ja '61. (MIRA 14:1)

1. Iz kafedry propedevtiki vnutrennikh bolezney (nach. - zasluzhennyy deyatel' nauki deystvitel'nyy chlen AMN SSSR prof. N.N. Savitskiy) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(BLOOD PRESSURE)
(THYLAMINE)

KUZNETSOV, V.I.; KUSHAKOVSKII, M.S. [Kushakovskiy, M.S.]

Haemodynamics and tissue oxygen supply in patients with chronic methaemoglobinaemia. Cor vasa 4 no.4:281-288 '62.

1. Department of Internal Medicine, Kirov Academy of Military Medicine, Leningrad, USSR.
(METHEMOGLOBINEMIA) (BLOOD CIRCULATION)
(BLOOD GAS ANALYSIS)

GUTKIN, Kh.G.; KUZNETSOV, V.I.

Total substitution of the ureter with a segment of the small intestine. Urologiia no.6:58-59'62. (MIRA 16:7)

1. Iz khirurgicheskogo otdeleniya (zav. V.I.Pel'tsverger) 2-oy dorozhnoy bol'nitsy Yuzhno-Ural'skoy zheleznoy dorogi.
(URETERS--SURGERY) (SURGERY, PLASTIC)

KUZNETSOV, V.I.

Isolated tuberculous lesion of the stomach. Khirurgiia no.3:133-134 '63. (MIRA 16:5)

1. Iz khirurgicheskogo otdeleniya (zav. zasluzhennyy vrach RSFSR kand.med.nauk I.M.Kuznetsov) Respublikanskoy bol'nitsy (glavnyy vrach P.L.Yeremin) Ministerstva zdravookhraneniya Chuvashskoy ASSR.

(STOMACH--TUBERCULOSIS)

L 9988-63 EPF(c)/EWT(l)/EPF(n)-2/EWT(m)/BDS/ES(b)--AFFTC/ASD/SSD--Pr-4/
Pu-4--RM/MAY/K
ACCESSION NR: AP3002858 S/0241/63/008/006/0027/0032

70
69

AUTHOR: Kuznetsov, V. I.; Kushakovskiy, M. S.

TITLE: Mechanism of the effect of antiradiation agents 19

SOURCE: Meditsinskaya radiologiya, v. 8, no. 6, 1963, 27-32

TOPIC TAGS: radioprotective agents, radioprotective mechanisms, cystamine, S,Beta-aminoethylisothiuronium, AET, oxygen balance, hypoxia, oxygen effect

ABSTRACT: Cystamine and AET (S,Beta-aminoethylisothiuronium), whose radioprotective mechanisms have been thought to be similar and based on hypoxia, were studied to determine their effect on the various steps in the supplying of oxygen to the tissues of the human body. An attempt was made to discover whether these preparations do, in fact, induce some form or other of hypoxia. Information was also sought on the significance of the "oxygen effect" and hypoxia in the radioprotective mechanisms of sulfhydryl compounds. Cystamine given per ora in 200, 400, and 600 mg doses caused an increase in basal metabolism, increased oxygen consumption in the lungs, and a drop in methemoglobin. Added to a suspension of erythrocytes, with glucose present, cystamine increased the absorption of oxygen and the elimination of CO sub 2 from five- to eighteenfold.

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L 9988-63
ACCESSION NR: AP3002858

Data obtained indicated that cystamine does not cause hypoxia of the hemic, anoxic, stagnation, or histotoxic types. Similar doses of AET, on the other hand, had an inhibitory effect on oxygen balance, producing a lowering of basal metabolism and a reduced coefficient of oxygen consumption in the lungs. Unlike cystamine, AET penetrates the erythrocyte membrane weakly. The possibility of AET-induced hypoxia was by no means ruled out. It is concluded that the radioprotective effect of cystamine in humans cannot be satisfactorily explained on the basis of the hypoxia theory, and that the radioprotective mechanisms of cystamine and S,Beta-aminoethylisothiuronium are not identical. Orig. art. has: 1 table.

ASSOCIATION: Voyenno-meditsinskaya Ordena Lenina akademiya imeni S. M. Kirova (Military Medical Academy)

SUBMITTED: 04Jun62 DATE ACQ: 23Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 000 OTHER: 000

ja/cs
Card 2/2

KUZNETSOV, V.I., kand. med. nauk; ZHUCHKOV, F.V.

Diagnostic errors and complications in closed injuries of the duodenum. Khirurgiia 39 no.10:104-106 O '63.
(MIRA 17:9)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii Chelyabinskogo meditsinskogo instituta i 2-y Dorozhnoy bol'nitsy (nachal'nik T.M. Ovchinnikova) Yuzhnoural'skoy zheleznoy dorogi.

ACCESSION NR: AP4027982 S/0205/64/004/002/0284/0288

AUTHOR: Kuznetsov, V. I.; Tank, L. I.

TITLE: Oxygen consumption change in erythrocytes under the effect of cystamine

SOURCE: Radiobiologiya, v. 4, no. 2, 1964, 284-288

TOPIC TAGS: cystamine, oxygen respiration, cell oxygen respiration, erythrocyte, cystamine radioprotective concentration, respiration intensity, cysteamine (mercamine), disulfide 5-mercaptopentylamine, cyanide compound effect

ABSTRACT: The effect of radioprotective cystamine concentrations on oxygen consumption of cells was investigated in erythrocytes isolated from blood of dogs and pigeons. Erythrocyte samples (2 ml) were incubated in Warburg unit respirometers at 37°C. Cystamine in concentrations corresponding to radioprotective doses administered to animals and humans was added to samples before incubation. Respiration intensity was measured manometrically. Erythrocyte oxygen absorption was determined every 15 min for 3 hrs. The effects of cysteamine

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ACCESSION NR: AP4027982

(mercamine), disulfide 5-mercaptopentylamine, and cyanide compounds were also investigated. Findings show that cystamine, in concentrations corresponding to radioprotective doses administered to animals and humans, increases erythrocyte oxygen respiration. Cysteamine (mercamine) affects erythrocyte respiration the same as cystamine. Cyanide compounds decrease significantly the effect of cystamine on erythrocyte respiration. Disulfide 5-mercaptopentylamine, close in chemical structure to cystamine but without radioprotective action, decreases erythrocyte respiration. Orig. art. has: 3 tables.

ASSOCIATION: Voenno-meditsinskaya ordena Lenina Akademiya im. S. M. Kirova, Leningrad (Military-Medical Lenin Order Academy)

SUBMITTED: 09Jan63 ENCL: 00

SUB CODE: LS NR REF SOV: 015 OTHER: 004

Card 2/2

KUZNETSOV, V.I.; TANK, L.I.

Effect of radioprotective agents of the amino thiol series on the respiratory function; a review of literature. Med.rad. 9 no.9:92-95 S '64. (MIRA 18:4)

1. Voyenno-meditsinskaya ordena Lenina akademiya imeni Kirova, Leningrad.

TANK, L.I.; KUZNETSOV, V.I.

Cardiovascular changes under the influence of aminothiols; a review of literature. Med. rad. 9 no.7:56-66 Jl '64. (MIRA 18:5)

1. Voyenno-meditsinskaya ordena Lenina akademiya imeni Kirova, Leningrad.

ACC NR: AP7004650 (A,N) SOURCE CODE: UR/0432/66/000/001/0013/0015

AUTHOR: Kuznetsov, V. K.; Morozov, A. A.

ORG: none

TITLE: Program interrupt during access to magnetic tape

SOURCE: Mekhanizatsiya i avtomatizatsiya upravleniya, no. 1, 1966, 13-15

TOPIC TAGS: computer storage, computer control system, magnetic tape, computer programming

ABSTRACT: The Institute of Cybernetics of the Academy of Sciences UkrSSR has designed a program-interrupt unit for use with the Minsk-2 and Minsk-22 computer magnetic tape memory. The program-interrupt unit coordinates the exchange of information between the arithmetic unit and various memory types whose maximum waiting times differ into maximum time during which information may be stored in a memory unit without loss. Since the waiting time fof magnetic tape memory is practically infinite and of other units is as the order of tens or hundreds of milliseconds, it is most expedient to interrupt during magnetic tape memory access with subsequent unconditional transfer back to the tape memory. The program and hardware (using standard Minsk-2 computer circuits) required for this function are described. Orig. art. has: 1 figure. [BD]

SUB CODE: 09/ SUBM DATE: none

Card 1/1 UDC: 681.142.63

ACC NR: AP7000147 SOURCE CODE: UR/0046/66/012/004/0457/0462

AUTHOR: Kuznetsov, V. K.

ORG: Acoustics Department, Moscow State University (Kafedra akustiki Moskovskogo gosudarstvennogo universiteta)

TITLE: Experimental apparatus for investigating wave fields in nonhomogeneous media by the analog modeling method

SOURCE: Akusticheskiy zhurnal, v. 12, no. 4, 1966, 457-462

TOPIC TAGS: hydrodynamics, hydrodynamic wave, acoustic wave tank, acoustic wave, oscillograph, laboratory equipment/ MPO-2 oscillograph

ABSTRACT: The operating principle and the structural details of an apparatus for investigating hydroacoustic waves are discussed. The main features of the apparatus are a waveguide and a water tank capable of absorbing acoustic waves and eliminating reflection from the waveguide edges. These features make it possible to use the apparatus for analog modeling of the propagation of cylindrical waves in free space as well as the propagation of waves in nonhomogeneous media. For the latter purpose a variable cross-section horn is used. A block diagram of the complete apparatus is presented. The waveguide proper is made of sheet duralumin and has the shape of an elliptical arc. The measuring instruments consist of wave generators, amplifiers, phase meters, and MPO-2 loop oscillographs. Typical oscillograph outputs

Card 1/2 UDC: 534.6

ACC NR: AP7000147

are given to illustrate the damping characteristics of the apparat s and the characteristics of several normal wave fields. A scanned record i included to show the sectional view of a primary normal wave in the vertical plane. In conclusion, the author expresses his gratitude to S. N. Rzhevkin for his const nt attention to this work and to Ye. P. Minin for his part in constructing the appar tus. Orig. art. has: 6 figures. [04]

SUB CODE: 20/ SUBM DATE: 12Nov64/ ORIG REF: 006/ OTH REF: 00 / ATD PRESS: 5110

Card 2/2

L 42032-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JG/AT

ACC NR: AR6014367 SOURCE CODE: UR/0137/65/000/011/G030/G030

AUTHORS: Kuznetsov, V. K.; Mol'nikova, L. P.; Kalovkina, V. G.; Panova, L. S.

43
B

TITLE: Electrolytic deposition of zinc-nickel alloy

SOURCE: Ref. zh. Metallurgiya, Abs. 11G217

REF SOURCE: Sb. Zashchita met. ot korrozii. Kuybyshev, 1965, 47-52

TOPIC TAGS: zinc containing alloy, nickel containing alloy, electrolytic deposition

ABSTRACT: To obtain clear, bright depositions of Zn-Ni alloy with an Ni content of up to 2% the following electrolyte composition is recommended (in g/liter): Zn 32—42, Ni 0.75—0.196, NaCN 84—94, NaOH 71—82; temperature of electrolyte 18—25C; D = 2—3 amp/dm^2. Data on corrosion experiments have shown that the corrosion stability of Zn-Ni alloy is not lower and, in a number of cases, is higher than the corrosion stability of Zn. G. Svodtseva [Translation of abstract]

SUB CODE: 11

Card 1/1 gd UDC: 669.5'14.018.9

L 39650-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) GD-2

ACC NR: AP6001514 SOURCE CODE: UR/0302/65/000/004/0029/0030

AUTHOR: Grabezhov, E. Ya.; Kuznetsov, V. K.

ORG: None

TITLE: Operation of general-purpose digital computers with extrinsic devices in automatic control systems

SOURCE: Avtomatika i priborostroyeniye, no. 4, 1965, 29-30

TOPIC TAGS: computer component, automatic control system, digital computer system, digital computer

ABSTRACT: The authors discuss the various types of connections between computers and extrinsic devices, dividing them into two classes: number code buses for data exchange, and control code buses which carry commands from the control unit of the digital computer to the extrinsic devices. A method for organizing the operation of an automatic control system with a large number and variety of extrinsic devices is explained with the aid of a block diagram. A description is given of a device developed by the Institute of Cybernetics AN UkrSSR (Institut kibernetiki) for connecting extrinsic units to digital computers. This device consists of an input-output amplifier unit, an extrinsic device address decoder and a readout pulse generator. The unit, which was developed for use with the "Minsk-2"

UDC: 681.142.353

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ACC NR: AP6001514

computer, can be used to connect up to 90 extrinsic devices to the computer. When the ready signal is fed from the extrinsic device to the program interrupter, the incoming signal is analyzed and the address of the extrinsic device is determined. A voltage for transmission or reception of data is generated in the operation code unit of the computer controller, and this potential is applied to the input-output amplifiers. In addition, the data reception potential is also fed to the readout pulse generator. At the same time, the code for the first address of the command is sent to the command register; the address decoder deciphers this signal to the resolving potential $P_1,\ldots,P_k$ with the number of the device sending the ready signal. This potential is sent to the buffer accumulator of the proper device, opening the valve for information readout from the buffer accumulator to the number code buses. Information readout is assured by the readout pulse for the given extrinsic device. This pulse is formed in the readout pulse generator at the corresponding valve by the pulse from the computer and the resolving potential from the address decoder. The number code buses carry the information to the input-output amplifiers. Through the open amplifiers the information is then sent to the number code buses of the computer and thence to the memory unit. Information from the computer is sent through valves (provided there is a data transmission potential) to the number code buses of the extrinsic devices and received by the device the potential of which is given by the address decoder. Tests of this coupler have shown that it is reliable and simple to use. Orig. art. has: 2

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L 39650-66
ACC NR: AP6001514

figures.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 001

Card 3/3 hs

SOV/46-5-2-7/34

AUTHOR: Kuznetsov, V.K.

TITLE: On a New Method of Solution of the Problem of Acoustic Field in a Liquid Wedge (O novom metode resheniya zadachi o zvukovom pole v zhidkom kline)

PERIODICAL: Akusticheskiy zhurnal, 1959, Vol.5, Nr 2, pp 170-175 (USSR)

ABSTRACT: Solutions of the liquid-wedge problem, obtained in general form by Sommerfeld and others (Ref.1), frequently fail to show clearly the physical nature of the acoustic field. The author describes a new approach which avoids this difficulty. He considers a wedge of aperture φ_0 with perfectly reflecting boundaries at $\varphi = \varphi_0/2$ and $\varphi = -\varphi_0/2$. The wave equation is written in cylindrical coordinates (Eq.1) and is then separated into Equations (3) and (4) by means of the substitution given in Eq.(2). Solution of Eq.(4), together with its boundary conditions, yields "normal waves" of Krasnushkin (Ref.2). These "normal waves" are used as the basis of further discussion. Plane waves and waves proceeding from a point source are considered. The

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On a New Method of Solution of the Problem of Acoustic Field in a Liquid Wedge

theory predicts refraction of "normal waves" in the wedge. The existence of such refraction was confirmed experimentally in water at 9, 11 and 12 kc/s. This refraction explains anomalies reported by Worcel and Iving (Ref.5), who studied propagation of sound in seas near their shores (sea and lake shores often form liquid wedges with almost perfectly reflecting upper boundaries). Interference of "normal waves" in the wedge is also discussed. The work reported was carried out by the author in the Chair of Acoustics of the Physics Department of Moscow State University in 1955-6, and has already been reported at the Third All-Union Conference on Acoustics in May 1957. The work was suggested by V.S. Nesterov, Docent of the Chair of Acoustics, Moscow State University. There are 7 figures and 6 references, of which 5 are Soviet and 1 translation into Russian.

SOV/46-5-2-7/34

On a New Method of Solution of the Problem of Acoustic Field in a Liquid Wedge

ASSOCIATION: Kafedra akustiki Moskovskogo gosudarstvennogo universiteta (Chair of Acoustics, Moscow State University)

SUBMITTED: September 23, 1957

Card 3/3

KUZNETSOV, V. K.

"Focusing of Normal Waves in a Layer of Non-Uniform Depth."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 3 Jun 58.

KUZNETSOV, V.K.

Membrane jolting machine. Lit.proizv. no.2:40-41 F '60.
(MIRA 13:5)
(Foundries--Equipment and supplies)

LESHCHENKO, V.A.; KUZNETSOV, V.K.

Manufacture of throttle slide-valves for monitoring systems based on the method of hydraulic tests. Stan.i instr. 24 no.7:23-25 Jl '53.
(MLRA 6:8)
(Slide-valves)

L 4501-66 EWT(d)/T/EWP(l) IJP(c) BB/GG

ACC NR: AP5023268 UR/0302/65/000/003/0023/0025
681.142.63

AUTHOR: Kuznetsov, V.K.; Morozov, A.A.

TITLE: The realization of program interruptions on universal digital computers

SOURCE: Avtomatika i priborostroyeniye, no. 3, 1965, 23-25

TOPIC TAGS: computer program, automatic programming, automatic computer programming, digital computer, computer component, computer circuit

ABSTRACT: During the use of digital computers in automatic control systems, the need for interruption programs often arises. Since the computer can operate with only one of the external devices at a time, the interruption program from a device with a higher priority can interrupt and stop the carrying out of the program of a device having a lower priority. For such uses of the "Minsk-2" universal computer the Institut kibernetiki AN Ukr. SSR (Institute of Cybernetics AN Ukr SSR) developed a circuit for the interruption of low priority programs. The paper outlines the block diagram of the interrupting device and of the basic interrupter component, and describes the operation of the device. The circuits are simple and reliable in operation. Orig. art. has: 3 figures.

ASSOCIATION: none

Card 1/2

L 4501-66

ACC NR: AP5023268

SUBMITTED: 00 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 000 OTHER: 000

Card 2/2

S/138/61/000/005/002/006
A051/A129

26989

15 9201 11 2211

AUTHORS: Radchenko, I. I., Fisher, S. L., Korchmarek, V. V., Kuznetsov, V. L., Bryl', D. G., Lyashch, R. S., Valenina, V. F.

TITLE: Polymerization of butadiene with styrene in emulsion using colophony soap at a temperature of 5°C

PERIODICAL: Kauchuk i rezina, no. 5, 1961, 5 - 11

TEXT: Several polymerization formulations have been developed, of which only a few are suitable for industrial use. Hydrogene peroxide hydrocarbons are usually used as the initiators and various compounds with reducing properties as activators, such as ferrous sulfate, sodium sulfite, etc. Coagulation of the latex is caused by large quantities of electrolytes. Daksad serves as disperser. Daksad is a neutralized condensation product of naphthalenesulfoacid with formaldehyde. The higher mercaptanes, e.g., dodecylmercaptane and a mixture of C_{12}-C_6, are used as regulator in the production of butadiene-styrene rubbers. The best-known polymerization formulation is iron-pyrophosphate, where a complex formed from the interaction of potassium pyrophosphate with ferrous sulfate is used as activator. Special attention is drawn to the iron-trilon formulation. An increase in the iron

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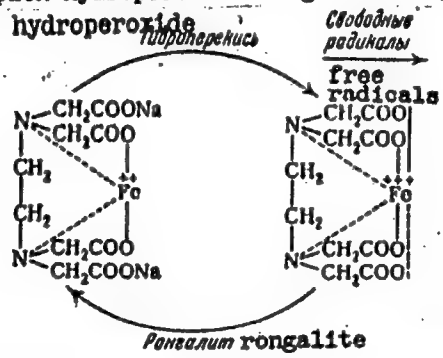
ontent in rubber is contra-indicated, since it causes premature oxidation and ging. A complex formed from the interaction of trilon B and ferrous sulfate is used as activator in the iron-trilon formulation. The purpose of the present work was to study the process of polymerization of butadiene with styrene carried out according to the iron-trilon and iron-pyrophosphate formulations, and to perfect these formulations for industrial use. Colophony soap and its mixture with fatty acid soap were used as emulsifiers. The scheme of the mechanism of the action of the system iron-trilon complex-hydroperoxide-rongalite is given:



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A051/A129

Polymerization of butadiene with styrene in...

An iron-trilon formulation in two variants: for polymerization with colophony emulsifier and for polymerization with its mixtures with fatty-acid emulsifier at the ratio 1 : 1 was developed on the base of the conducted experiments. The formulations were checked under pilot plant conditions by S. L. Fisher, I. I. Radchenko, A. M. Perminov, E. G. Lazaryants, V. L. Tsaylingol'd et al. (report of VNIISK-NIIMSK, no. 013034, 1960). Four types of experimental batches of butadiene-styrene rubber were prepared: СКС-30АРК (SKS-30ARK) with colophony emulsifier (with a hardness of 600 - 800 g not containing mineral oil) and using a mixture of colophony and fatty-acid emulsifier at the ratio of 1 : 1, and also СКС-30АМРК (SKS-30AMRK) with a mixture of colophony and fatty-acid soap at a ratio of 1 : 1, containing 20 w.p. of ПН-6 (PN-6) oil with a Defoe hardness of 600 - 800 g (before introducing the oil 1,200 - 1,400 g) and containing 37.5 w.p. of PN-6 oil with a Defoe hardness of 600 - 800 g (before introducing the oil 2,000 - 2,200 g). The prepared rubbers SKS-30ARK and SKS-30AMRK had the following indices:

	SKS-30ARK	SKS-30AMRK-20
content of free colophony acids, %	6.3	5.5
content of bound colophony acids, %	0.35	0.15
iron content, %	0.017	0.012
Defoe hardness, g	540	650

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Polymerization of butadiene with styrene in... 26989

	SKS-30ARK	SKS-30AMRK-20
tear resistance, kg/cm^2	281	256
relative elongation, %	680	550
residual elongation, %	24	22
elasticity, %	34	29

The iron-pyrophosphate formulation (report of Giprokauchuk no. 010017, 010851, 010889, 1955-56) was further investigated. For the polymerization of butadiene with styrene the following formulation was used: butadiene ... 70, styrene ... 30, dresinate 731 ... 4.5, hydroperoxide n-methane ... 0.08, $FeSO_4 \cdot 7H_2O$ ... 0.16, $K_4P_2O_7$ ... 0.18, sodium ethylenediaminetetraacetate (versen, trilon B) ... 0.01, daksad ... 0.15, $Na_3PO_4 \cdot 12H_2O$ ... 0.5, tertiary dodecylmercaptane (sulfol B-8) ... 0.18, water ... 200 (in w.p.). It is pointed out that with an increase in the regulating action of the diproxide the rate of polymerization dropped almost by 1.5 times. When using the monohydroperoxide of diisopropylbenzene the duration of the polymerization was 12 - 14 hrs, when replacing it by hydroperoxide of 1,1-diphenylethane 9 - 10 hrs. On the basis of the conducted work the formulation of iron-pyrophosphate using potassium soap of colophony was developed. This formulation was tested under pilot plant conditions (report of the VNIISK-NIIMSK, no. 013094,

Polymerization of butadiene with styrene in... 26989 S/138/61/000/005/002/006 A051/A129

1960). The prepared experimental butadiene-styrene rubber had the following indices: content of free colophony acids, % ... 5.8, content of bound colophony acids, % ... 0.25, content of iron, % ... 0.02, defoe hardness, g ... 550, tear resistance, kg/cm^2 ... 269, relative elongation, % ... 650, residual elongation, % ... 23, elasticity, % ... 29. In the conclusion the authors recommend sodium dimethyldithiocarbamate to be used as the interrupter of polymerization. There are 9 graphs and 5 references: 2 Soviet-bloc, 3 non-Soviet-bloc. The references to the English-language publications read as follows: R. Frank, J. Polym. Sci., 3, no. 1, 39 (1948); L. Howland, Rubb. World, 130, no. 5, 647 (1954); R. Brown et al., Ind. Eng. Chem., 46, no. 5, 1073 (1954).

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber im. S. V. Lebedev)

X

Card 5/5

KUZNETSOV, V.L.; LEBEDEV, A.V.

Effect of the amount of emulsifying agents on the viscosity of butadiene-styrene latexes. Kauch.i rez. 21 no.1:16-19 Ja '62. (MIRA 15:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva.

(Emulsifying agents) (Rubber, Synthetic)
(Butadiene)

KUZNETSOV, V.L.; LEBEDEV, A.V.

Effect of the nature of the cation of fatty acid soaps on the viscosity of butadiene-styrene latexes and the parameters of the adsorption layers. Kauch. i rez. 22 no.7:7-9 Jl '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva.
(Rubber, Synthetic) (Emulsifying agents)

ACCESSION NR: AP4026368 S/0138/64/000/003/0030/0033

AUTHORS: Kuznetsov, V. L.; Lebedev, A. V.

TITLE: Effect of hydrocarbon chain length in fatty acid soaps on the parameters of interphase layers in butadiene-styrene latexes

SOURCE: Kauchuk i rezina, no. 3, 1964, 30-33

TOPIC TAGS: rubber, butadiene-styrene rubber, latex, emulsifier, soap, potassium laurate, potassium myristate, potassium palmitate, potassium stearate, hydrocarbon chain length, viscosity, interphase layer, soap-water layer, hydration

ABSTRACT: The investigation was conducted on SKS-50 butadiene-styrene latexes synthesized by a standard procedure in the presence of potassium soaps of lauric, myristic, palmitic, and stearic acids as emulsifiers. The latexes were further treated with the corresponding soap to the saturation point, which brought the pH to a 9.1-9.3 value. It was found that the viscosities of the latexes increased with an increase in the length of the hydrocarbon chain of the fatty acid. Calculations by a method described in an earlier publication by the authors (Kauchuk i rezina. No. 1, 16, 1962) revealed that the thickness of the coating of the

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ACCESSION NR: AP4026368

latex particles varied from 3.2 to 4.7 millimicrons, increasing with the length of the carbon chain of the emulsifier, while the degree of hydration of the adsorbed soap showed a reverse trend. Tests conducted with soaps from domestic-mixed synthetic fatty acids of a C_{10}-C_{16} carbon chain length showed that the thickness of the adsorbed aqueous soap layer depended solely on the average carbon chain length of the mixture, irrespective of its original constituents. The stability of latexes emulsified by means of mixed soaps of a certain median carbon chain length towards freezing at -12 and -30C was superior to that of samples emulsified by a single soap of an identical carbon chain length. It was also found that the resistance of latexes to freezing decreased with increased length of the carbon chain of the corresponding fatty acid. Orig. art. has: 5 tables and 1 chart.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S. V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber)

SUBMITTED: 00 DATE ACQ: 17Apr64 ENCL: 00

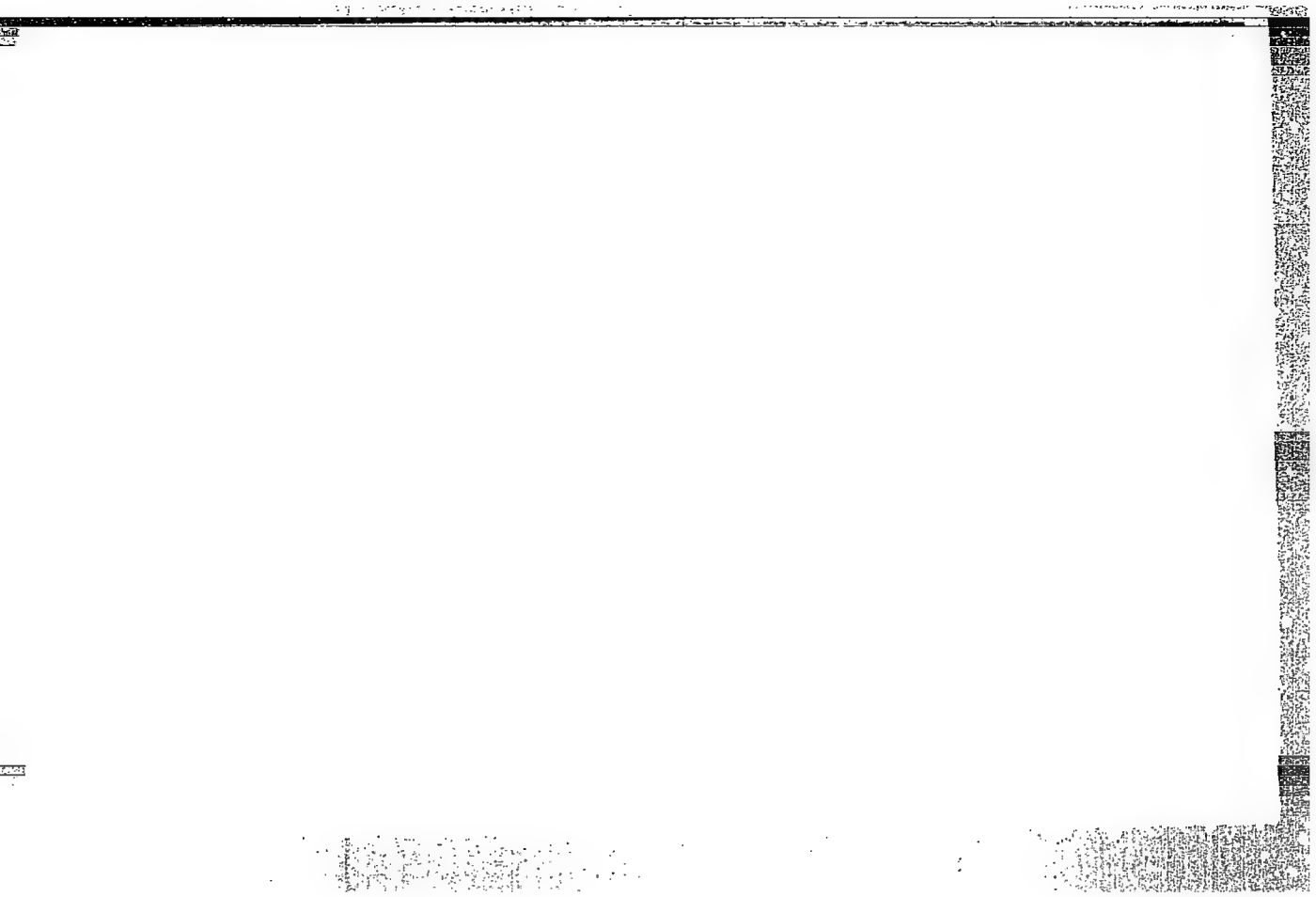
SUB CODE: CH NO REF SOV: 004 OTHER: 003

Card 2/2

KUZNETSOV, V.L.; LEBEDEV, A.V.

Effect of the length of the hydrocarbon chain of fatty acid soaps on the parameter of the interphase layers in butadiene styrene latexes. Kauch. i rez. 23 no. 3:30-33 Mr '64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V.Lebedeva.



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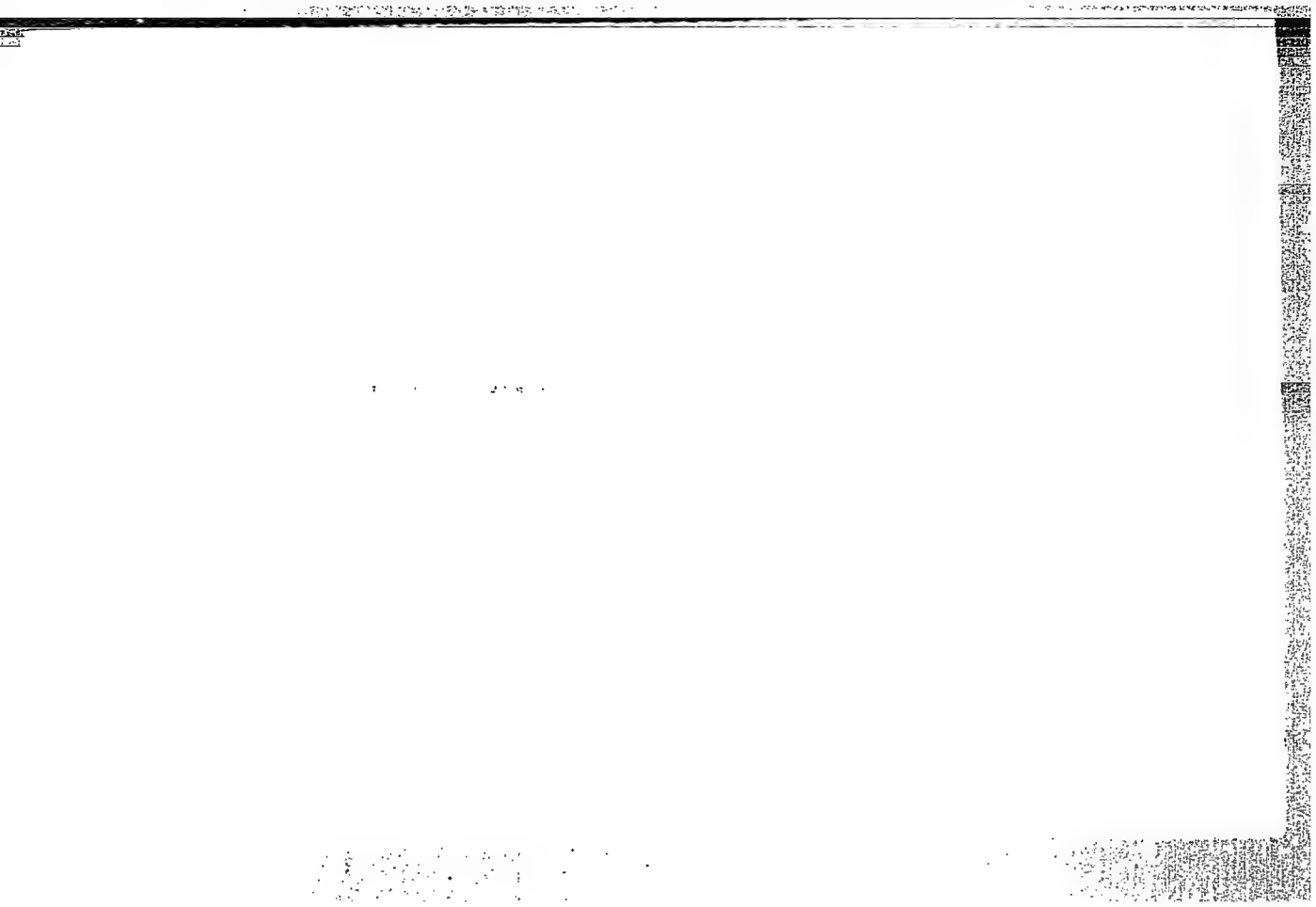

DUBROVIN, A.S. (Chelyabinsk); KUZNETSOV, V.L. (Chelyabinsk)

Role of pressure and heat transfer in metallothermic processes.
Izv. AN SSSR. Met. no.4:82-88 JL-Ag '65. (MIRA 18:8)

KUZNETSOV, V.L.; KONDRASHOV, V.A.; RUVINSKIY, L.L.

Increasing labor productivity in seismic prospecting based on the introduction of surface booms. Razved. geofiz. no.5:33-38 '65. (MIRA 18:9)

KUZNETSOV, V.L.

Using pattern shooting in low-velocity zones. Trudy SNIIGGIMS no. 30:69-74 ' 64 (MIRA 19:1)

ACC NR: AP6036428 SOURCE CODE: UR/0210/66/000/008/0074/0084

AUTHOR: Kuznetsov, V. L.; Ocheretina, V. B.

ORG: Siberian Scientific Research Institute of Geology, Geophysics, and Mineral Resources, Novosibirsk (Sibirskiy nauchno-issledovatel'skiy institut geologii, geofiziki i mineral'nogo syr'ya)

TITLE: Possible utilization of discrete observations of reflected waves for prospecting third-order structures

SOURCE: Geologiya i geofizika, no. 8, 1966, 74-84

TOPIC TAGS: geologic prospecting, seismic wave, ~~propagation~~, seismic prospecting, industrial shooting

ABSTRACT: Experiments have been conducted in the southeastern part of the west Siberian lowland (Ubinskiy prominence) to determine the feasibility of prospecting local third-order structures by means of discrete observations of reflected waves, including those reflected beyond the critical angle. To examine the changes that occur in the form of the record of a reflected wave with distance from the source of oscillations, the waves were tracked continuously from the surface of the basement in the 0—4000-m range. Recordings were made by a seismic station using the SSM-57 6-channel magnetic recorder, which simulated the "Tayga" station, and by individual SPED-56 seismic recorders with 20-m spacing. The length of the array was 460 m. The tests were carried out in two different sectors. In the first,

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ACC NR: AP6036428

where the low-velocity zone was 10 m thick, the elastic waves were generated by charge detonations in boreholes at depths of 10—20 m. In the second sector, where the low-velocity zone was 1 m thick, group detonations were set off in wells at a depth of 1 m. Each charge was 0.4 kg. The experiments showed that the method of discrete observations of reflected waves, including those beyond the critical angle, can be successfully used to map third-order structures. The method may be used effectively in swampy as well as heavily forested areas. Heavy equipment can be dispensed with, and prospecting teams can be reduced to 8—10 men. Orig. art. has: 6 figures.

SUB CODE: 08/ SUBM DATE: 07Jan66/ ORIG REF: 018/ ATD PRESS: 5106

Card 2/2

KUZNETSOV, V.M.

Heat losses in buildings and coefficient of reserve in determining surface heat of boilers (critical notes to the SN and P). Ved.i san. tekh. no.9:29 S '56. (MLRA 9:10)
(Heating) (Boilers)

KUZNETSOV, V. M.

3 (?), 3 (4)
AUTHOR: None Given
SOV/6-59-5-1/26

TITLE: Appeal of the Workers of the North-west Aerogeodetic Enterprise to the Workers of the Topographic-geodetic and Cartographic Services (Obrashcheniye rabotnikov Severo-Zapadnogo aerogeodezicheskogo predpriyatiya k rabotnikam topografo-geodezicheskoy i kartograficheskoy sluzhby)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 5, pp 3-4 (USSR)

ABSTRACT: On the occasion of the 21st Party Congress of the Communist party of the USSR, the collective of the North-west Aerogeodetic Enterprise has fulfilled the 1958 production plan ahead of time, with the saving, in excess of the plan, of funds, and with the attainment of a high increase in output. In the competition the following best workers scored significant success: Chief Technicians D. I. Pereryenko and A. P. Saltykov in observations of triangulation stations, Technicians M. Ye. Kurochev and V. N. Gerlak in the erection of signals, Chief Topographers A. A. Ivanov, I. V. Grigor'yev, and V. B. Gorodetskiy in topographical surveying, Technician V. M. Kuznetsov in leveling, Senior Topographer L. N. Stepanov in stereotopographical work, Senior Technician-cartographer

Card 1/2

KUZNETSOV, V. M.

S/200/61/000/006/004/004
D206/D303

AUTHOR: Chernenko, A.K.

TITLE: At the joint scientific council for the physico-mathematical and technical sciences

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya. no. 6, 1961, 134-135

TEXT: The regular meeting of the Ob''yedinennyy uchenyy sovet po fiziko-matematicheskim i tekhnicheskim naukam (Joint Scientific Council for Physico-Mathematical and Technical Sciences) of the Siberian Division AS USSR took place on March 21-23, 1961. The All-Union Academic Commission recently broadened the scope of the Council and authorized its sections to undertake the examination of theses. On March 21, at the meeting of the Technical Sciences Section (Chairman - K.B. Karandeyev, Corresponding Member, AS USSR; Scientific secretary - Professor P.O. Pasnkov), V.M. Kuznetsov presented his Candidate's thesis - "Some Aspects of the Effect of a Ground Explosion" (Official examiner - Professor O.S. Migirenko). E.A. Antonov

Card 1/4

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000928210010-8"

Kuznetsov, V.M.

AUTHORS: Chichalin, I.P. (Cand. Tech. Sci., Director of Scientific-Research Institute); Bol'shov, Yu.K. (Assistant); Kobozev, Yu.I. (Aspirant); Kuznetsov, V.M. (Senior Engineer); Soustin, B.P., (Junior Scientific Worker); and Strezin, V.A. (Engineer)

TITLE: Parallel Connection of Valves for Switching Large Pulse Currents

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika, 1959, Nr 7, pp 94-98 (USSR)

ABSTRACT: The basic requirements for satisfactory parallel operation of thyratrons, ignitrons, etc. are simultaneous firing and equal voltage drops. These two factors are considered quite separately for the circuit in Fig 1, used for switching the charge from a bank of condensers to an electromagnet producing an intense magnetic field. Fig 2 shows the simpler case of two thyratrons connected directly to strings of condensers. If T1 fires first C2 will discharge more slowly than C1. Fig 3 shows the variation in voltages of Fig 2. The anode of the second thyratron remains positive until the instant t2 (t2>t1). If T2 fires a negative voltage appears at the first anode since U=U2-U1. U1 extinguishes and

Card 1/3

the load transfers to T2. The arcdrop process repeats itself rapidly as shown in the oscillogram of Fig 4. To prevent the anode voltage becoming zero the circuit is modified by the introduction of the 2-core divider shown in Fig 1. Fig 5 shows a convenient method of firing parallel-connected thyratrons. A sufficiently uniform distribution of current among the thyratrons is guaranteed by feeding their anodes through 2-winding transformers, interconnected as in the equivalent circuit of Fig 6 where the arc voltage-drops are represented by different e.m.f's. It is supposed that the latter are independent of current as are also the anode inductances. The increase in current in all the branches can be calculated as the transient arising from switching the differential relation is Eq (1). The solution for a particular current, i1, is Eq (8). If it is required that the unbalanced current through any valve does not exceed a given amount, then the necessary anode inductance is given by Eq (14). Confirmatory results have been obtained using type TG1-1/15 thyratrons.

Card 2/3

ASSOCIATION: Kuybyshev-Industrial Institute, Tomsk Politekhnicheskiy Institut (Scientific Research Institute, Tomsk Polytechnical Institute) Fiziko-Tekhnicheskiy Fakul'tet (Physico-Technical Department, Tomsk Politekhnicheskiy Institut (Tomsk Polytechnical Institute)

Card 3/3

S/044/62/000/002/041/092
C111/C444

AUTHOR: Kuznetsov, V. M.

TITLE: On the influence of the gravity on the throwing-out under explosions in the ground

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1962, 74, abstract 2B325. ("Tr. Mosk. fiz.-tekhn. in-ta", 1959, vyp. 3, 121-131)

TEXT: It is shown, that for explosive charges being used in praxis this influence is small.

[Abstracter's note: Complete translation.]

Card 1/1

KUZNETSOV, V.M., tekhnik

Device for locating punctures in insulation. Elek. i tepl. tiaga 4 no.10 21-22 O '60. (MIRA 13:10)

1. Lokomotivnoye depo Orenburg Kuybyshevskoy dorogi.
(Railroads--Electric equipment)
(Electric insulators and insulation--Testing)

KUZNETSOV, V.M. (Novosibirsk)

Shape of the explosion crater in a surface detonation.
PMTF no.3:152-156 S-O'60. (MIRA 14:7)
(Explosions)

KUZNETSOV, V.M. (Novosibirsk); LAVRENT'YEV, M.A. (Novosibirsk); SHER, Ye. N. (Novosibirsk)

Directed earthmoving by means of explosives. PMTF no.4:49-50 N-D '60. (MIRA 14:7)

(Earthwork)
(Explosions)

KUZNETSOV, N. M. Cand Tech Sci -- "Certain problems of the effect of explosion in the ground." Novosibirsk, 1961 (Acad Sci USSR. Siberian Department. Inst of Hydrodynamics). (KL, 4-61, 197)

KUZNETSOV, V. M.

Cand Tec Sci, Diss -- "Deoxidizing capacity of aluminum in liquid iron". Moscow, 1961. 12 pp, 21 cm (Inst of Metallurgy imeni A. A. Baykov), 120 copies, Not for sale (KL, No 9, 1961, p 183, No 24349). /61-53014/

S/207/62/000/003/007/016
I028/I228

AUTHOR: Kuznetzov, V. M. (Novosibirsk)

TITLE: On an explosion at the surface of a plate

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1962, 40-43

TEXT: The explosion at the surface of a thin plate is analysed mathematically under the assumption that the medium contiguous to the plate is an ideal incompressible liquid (statement of the problem belonging to Lavrent'ev). The following formula is obtained:

$$x_1 = x_0 + 0.4 \ln P/\mu c_0 h \qquad (34)$$

where x_1 = the half-width of the hole made by the explosion, x_0 = the half-width of the charge, h = the thickness of the plate, c_0 = the constant velocity along the solid boundary, μ = the density of the liquid, $P = \int_0^t p\,dt$ — the pressure impulse of the charge. This formula is compared with the one obtained by Kuznetzov for the case of an explosion at the surface of a half-space. It is found that the latter gives a faster increase of the hole width with the increase of the charge impulse. There are 3 figures.

SUBMITTED: January 15, 1962

Card 1/1

39226

17.6500

S/207/62/000/003/009/016
I028/I228

AUTHOR: Kuznetzov, V. M. and Sher, Ye. N. (Novosibirsk)

TITLE: Experimental investigation of a directed explosion in the ground

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1962, 53–58

TEXT: The article describes the results of experimental investigations designed to check the method proposed formerly by the authors and Lavrent'ev for disposing the explosive in the ground in a manner ensuring that the ejected ground is completely directed. Two main dispositions of the explosives were investigated: "triangle" and "layer". In each case, four charges were used, the ratios between them being determined by a general formula; somewhat different empirical ratios were tried in a number of experiments. Thirty-one experiments were performed and almost all explosions were filmed. Results (parameters of the crater and parameters of the ejection) are presented in a general table. It was found that the proposed disposition of the explosives ensures that the ejected ground is completely directed; some variations in the law of disposition are proposed, however, in order to diminish the spread. The layer scheme is recommended as being the most economical in practice. E. P. Gorbacheva and A. V. Petrov are mentioned as having taken part in the investigation. The authors thank M. A. Lavrent'ev for guiding them in the work. There are 16 figures and 1 table.

PRESENTED: January 3, 1962

Card 1/1

KUZNETSOV, V. M. (Moskva)

Mechanism of self-excitation of a field by a conducting fluid flow. Inzh. zhur. 2 no.4:217-226 '62. (MIRA 16:1)

(Magnetic fields)

ACCESSION NR: AR4022443 S/0058/64/000/001/A039/A039

SOURCE: RZh. Fizika, Abs. 1A352

AUTHOR: Kochegurov, V. A.; Kuznetsov, V. M.; Chuchalin, I. P.

TITLE: Ionic switch for the excitation of the electromagnet of an accelerator with unipolar pulses

CITED SOURCE: Izv. Tomskogo politekhn. in-ta, v. 122, 1962, 116-118

TOPIC TAGS: accelerator, accelerator magnet, accelerator magnet pulse supply, ionic rectifier, ionic controlled rectifier, unipolar excitation pulse, pulsed capacitor charging, pulsed capacitor discharge

TRANSLATION: To increase the efficiency of an accelerator with pulsed magnet supply, it is proposed to use current pulses both to charge and to discharge the capacitor bank. The corresponding change

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ACCESSION NR: AR4022443

in the polarity of the windings is effected by means of two pairs of controlled ionic rectifiers, so connected that pulses of the same polarity are excited in the electromagnet winding. Each pulse can be used to accelerate the particles. The energy losses in the circuit are compensated by a rectifier whose polarity also is reversed in synchronism with the reversal of the polarity of the capacitor-bank voltage. V. Kanunnikov.

DATE ACQ: 03Mar64 SUB CODE: PH, SD ENCL: 00

Card 2/2

ACCESSION NR: AR4036328 S/0275/64/000/003/A034/A034

SOURCE: Referativny*y zhurnal. Elektronika i yeye primeneniye, Abs. 3A179

AUTHORS: Kuznetsov, V. M.; Chuchalin, I. P.

TITLE: On the operation of the TR1-85/15 thyratron in the pulsed mode

CITED SOURCE: Izv. Tomskogo politekhn. in-ta, v. 122, 1962, 119-121

TOPIC TAGS: thyratron, pulsed thyratron, mercury vapor thyratron, thyratron current overload, thyratron overload limit

TRANSLATION: The vacuum tubes produced by the industry cannot switch currents of several thousand amperes lasting several tenths of a second and more. The most suitable devices for this purpose are mercury-vapor thyratrons, and the present paper is devoted to the

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ACCESSION NR: AR4036328

operation of these tubes in the pulsed mode. The TR 1-85/15 thyratron has the following published specifications: amplitude of direct and inverse voltage 15 kV, maximum value of anode current 300 A, average value $\leq$ 85 A. The investigations have shown that such a thyratron can withstand considerable overload, the limit of which is determined by the following: (a) the cathode emission current, (b) the dynamic stresses occurring during the passage of the current pulse, and (c) longevity of the cathode in the pulsed mode. Since the area of the oxide cathode of the thyratron TRI-85/15 amounts to ~1400 cm^2, and the maximum of emission current density in pulse is 10--50 A/cm^2, the maximum current from the cathode can reach several dozen kiloamperes. The experiments were carried out at an anode voltage of 3 and 15 A using a special circuit, in which a capacitor bank previously charged by a rectifier was discharged into an inductance through the investigated thyratron. The duration of the current pulses through the thyratron at U_a = 3 kV was 0.084 sec at a

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ACCESSION NR: AR4036328

repetition frequency of 2 per second. It was tested in this mode up to a maximum of 3000 A. At a 3 kV voltage and a maximum current of 1700 A, no changes were observed in the operation of the thyratrons, which operated stably for 50 hours. The tests of the thyratrons at 1.5 kV and at an anode current pulse duration of 3.5 milliseconds has shown that they can operate stably for a long time (90 hours) at 1200 A and to operate without noticeable changes at 1550 A. With further increase in the current, up to 5100 A, the entire gas space becomes ionized and an intense glow of the thyratron envelope occurs during the time of passage of the current pulse. The mechanical strength of the thyratrons turns out to be sufficient during the overload tests, but it is found that the temperature in the grid region must be monitored, for overheating the grid causes spontaneous ignition of the thyratron. The possibility of operating the TR 1-85/15 thyratrons at current overloads was confirmed by experiment. Bibliography, 7 titles. A. B.

Card 3/43

ACCESSION NO: AP 3002809 S/0207/63/000/003/0084/0090

AUTHORS: Kuznetsov, V. M. (Novosibirsk); Sher, Ye. N. (Novosibirsk)

TITLE: Scaling effect and effect of ground strength in directional blasting

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1963, 84-90

TOPIC TAGS: directional blasting, explosive, blast center formation, chain blasting, blasting energy

ABSTRACT: The scaling effect and the effect of ground strength on the directional blasting theory proposed by M. A. Lavrent'yev, V. M. Kuznetsov, and Ye. N. Sher (O napravlennom vy*brose grunta pri pomoshchi VV. PMTF, 1960, No. 4) were investigated. The nondimensionalized parameters normally considered are $\frac{J}{\rho g^{0.5/3.4}} = \text{const}$, $\frac{E}{\rho g l^4} = \text{const}$ (where J = impulse of explosive, ρ = density of ground, l = characteristic length, E = energy of explosive). It has been found that in practice this parameter should be modified to $\frac{E\mu}{\rho^2 g l^n} = \text{const}$ (where μ = depends on ground

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ACCESSION NO: AP3002809

properties and amount of explosive, n = varies between 3.5-7). Experimentally it was found that increasing the scale of an explosion decreased the relative amount of earth thrown out. During experiments performed in granite it was found that in the case of multiple charges placed around a perimeter the direction of the ground scatter depends upon the order in which the charges are released (ground is thrown towards the charges which were set off first). It was found that this behavior could be used to decrease the amount of explosive needed to move a certain amount of earth. A theoretical estimate was performed, and it was found that for the same effect the ratio of energy required with simultaneous explosion and chain explosion is E'/E" = 1.69, i.e., chain explosion requires almost 70% less explosive. Orig. art. has: 9 figures and 14 formulas.

ASSOCIATION: Institut gidrodinamiki SO AN SSSR (Hydrodynamics Institute SO AN SSSR, in collaboration with trust "Soyuzvzry*vprom")

SUBMITTED: 16Jan63 DATE ACQ: 16Jul63 ENCL: 00

SUB CODE: AR NO REF SOV: 006 OTHER: 000

Card 2/2

KUZNETSOV, V.M., kand. tekhn. nauk; SHER, Ye.N.

Controlled blasting in soil. Vzryv. delo no.51/8:22-39 '63.
(MIRA 16:6)

(Blasting)

S/0207/64/000/002/0066/0073

ACCESSION NR: AP4034273

AUTHORS: Kuznetsov, V. M. (Novosibirsk); Sher, Ye. N. (Novosibirsk)

TITLE: Flow stability of an ideal incompressible fluid in a strip and in a ring

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1964, 66-73

TOPIC TAGS: incompressible fluid flow, flow stability, ideal incompressible fluid, metal deformation, impulse load, initial state, constant pressure

ABSTRACT: The authors seek a solution for the Laplace equation

$$\varphi_{xx} + \varphi_{yy} = 0 \quad (1)$$

(the lower indices denote differentiation) in the region bounded by the curve $y = \eta(x,t)$ under the initial condition

$$\varphi(x, y, 0) = \Phi(x, y) \quad (2)$$

and boundary conditions for $y = \eta(x,t)$

$$\varphi_t + \frac{1}{2}(\varphi_x^2 + \varphi_y^2) + \frac{P}{D} = f(t) \quad (3)$$

$$\varphi_x \eta_x - \varphi_y + \eta_t = 0 \quad (4)$$

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ACCESSION NR: AP4034273

where D is the fluid density. Perturbations of arbitrary form can be expanded into a Fourier series so that there are, generally speaking, infinitely many harmonics of various types. The flow of a strip of ideal incompressible fluid with initial linear velocity field is stable relative to symmetric (unstable relative to anti-symmetric) harmonic perturbations of the boundaries. Thus, in the general case, the flow of a strip with given initial velocity field is unstable. However, this instability is quite weak, since the introduction of surface tension stabilizes the flow. An analogous assertion is true for the case of a thin ring spread by inertia. Uniformly accelerated motion of a strip of ideal incompressible fluid is unstable, and the shorter the wave length, the stronger the instability. Among the unstable harmonics can be found the harmonic with maximal instability, and the introduction of surface tension and the consideration of elastic forces here make it possible to separate the stable and unstable harmonics. Orig. art. has: 80 formulas and 1 graph.

ASSOCIATION: none

SUBMITTED: 150ct63 DATE ACQ: 15May64 ENCL: 00

SUB CODE: AI NO REF SOV: 001 OTHER: 000

Card 2/2

BR

ACCESSION NR: AP4041187 S/0207/64/000/003/0003/0008

AUTHOR: Kuznetsov, V. M. (Novosibirsk)

TITLE: Stationary propagation of a system of cracks in elastic brittle material

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 3, 1964, 3-8

TOPIC TAGS: crack propagation, elastic brittle material, stationary propagation, normal stress, tangent stress, stress tensor, displacement vector, Lame constant

ABSTRACT: The author generalizes results of I. W. Craggs (On the propagation of a crack in an elastic-brittle material. J. Mech. Phys. Solids, 1960, 8, 66-75) which were concerned with stationary propagation of one semi-infinite crack on whose surface normal and tangent stresses were symmetrically applied. The present author studies the case of an infinitely large number of cracks under the assumption that there are no tangent stresses on the surface of the crack. The physical meaning of the two types of crack development is as follows. The rate of stationary propagation of one crack increases as the pressure decreases. Thus if a crack originates and propagates in the material under the influence of certain loads, it may continue to advance even after the load is removed. In the case of a large

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ACCESSION NR: AP4041187

-number of cracks, this situation is not always possible. With large distances between cracks, each crack develops like a single one. If the cracks are close together, then each crack is affected in an essential way by the other cracks. The development of the crack is restrained in a way by the compressing forces acting from the neighboring cracks. With a sufficiently small distance between cracks there exists a limiting propagation rate as $P \to \infty$ (P is exterior force) which is smaller in magnitude than or equal to the Rayleigh. Orig. art. has: 41 formulas and 3 figures.

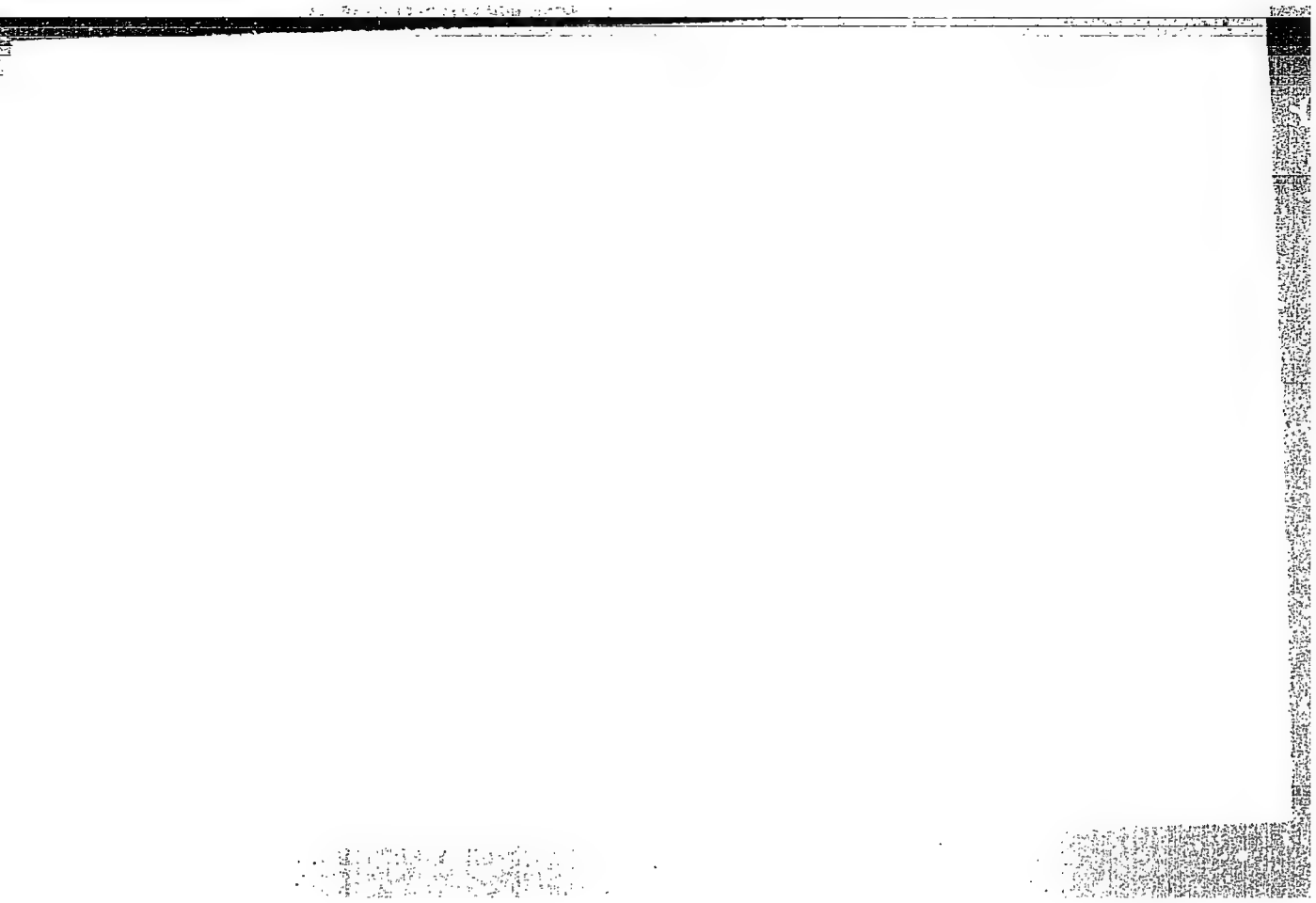
ASSOCIATION: none

SUBMITTED: 150ct63 ENCL: 00

SUB CODE: ME NO REF SOV: 002 OTHER: 001

Card 2/2

ABSTRACT: The author studies the problem of obtaining kinetic coefficients for a nonequilibrium model of a bi-atomic gas with internal excitation degrees of freedom in the case of so-called dual-temperature relaxation. It is considered [illegible] of interaction between molecules exist: ordinary elastic



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coefficients of [illegible] as a function of E_H. General

L 15519-63 EPR/EPA(b)/EWT(1)/BDS AEDC AFFTC/ASD Pg-4/Pd-4 WW/
IJP(IJP)
ACCESSION NR: AP3000713 S/0258/63/003/002/0236/0245

69
66

AUTHORS: Gulyayev, A. I.; Kuznetsov, V. M. (Moscow)

TITLE: Oscillations of gas in closed tube

SOURCE: Inzhenernyy zhurnal, v. 3, no. 2, 1963, 236-245

TOPIC TAGS: resonance, shock wave, oscillation, energy dissipation

ABSTRACT: An experimental study has been made to determine the shock wave formation in the large amplitude, nonlinear oscillations of a column of gas at resonant frequencies. It is noticed that the oscillations at resonant frequencies generate a series of unpredicted effects, such as stationary vortices and turbulence, indicating a change in the magnitude of the pressure jump due, possibly, to the unequal shock energy dissipation in directions normal and parallel to the tube axis. An energy balance is made in which the governing dissipative mechanisms have been shown to be the energy loss in the shock wave and in the boundary layer. "The author expresses his gratitude to P. L. Kapitsy* under whose guidance

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ACCESSION NR: AP3000713

3

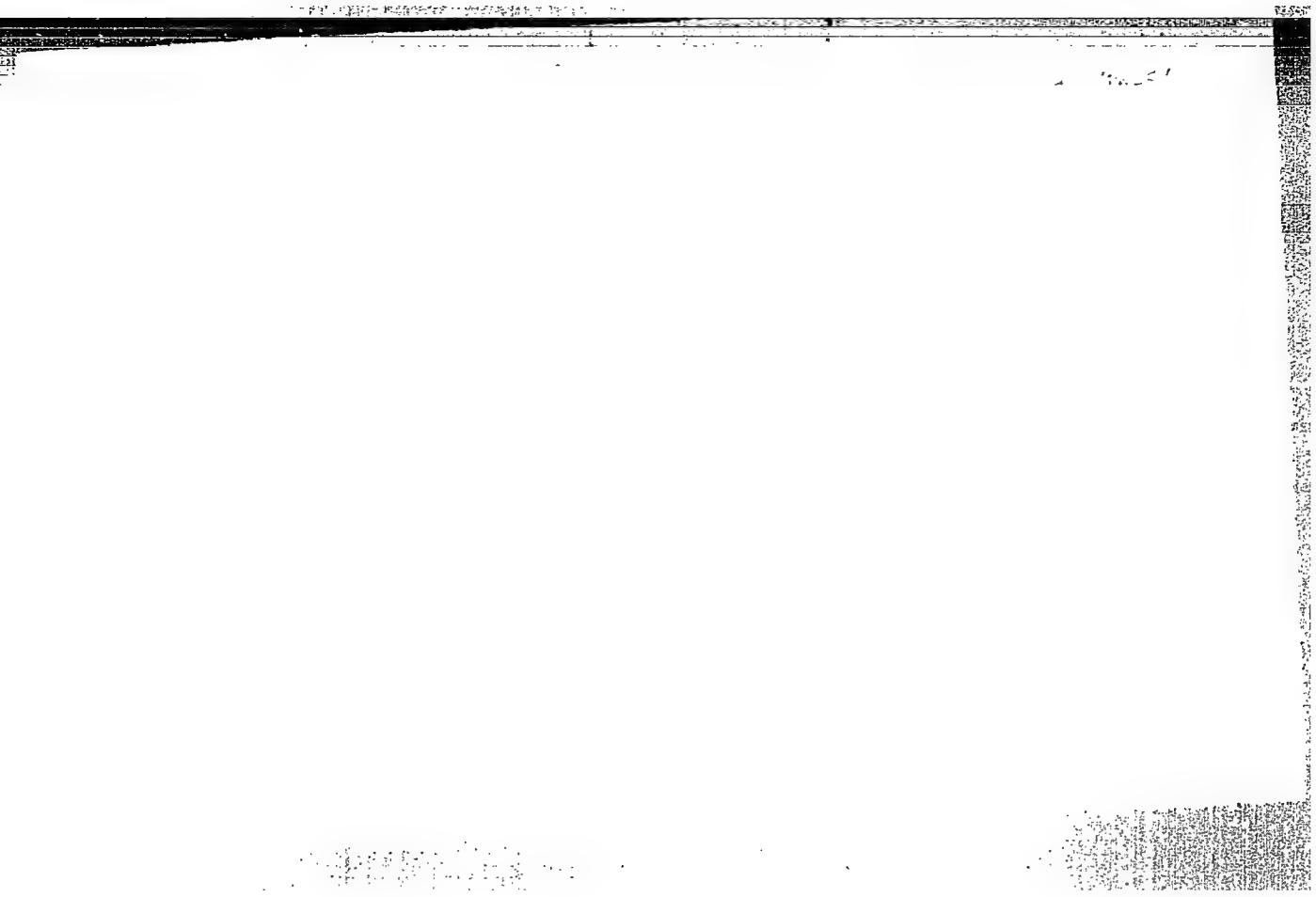
this work was done and to L. P. Gor'kov for his valuable advice. Thanks are also given to P. V. Cheby*shev for his help in the hot-wire anemometry techniques."
Orig. art. has: 19 equations and 5 figures.

ASSOCIATION: none

SUBMITTED: 09Jul62 DATE ACQ: 21Jun63 ENCL: 00

SUB CODE: AI NO REF SOV: 004 OTHER: 006

Card 2/2



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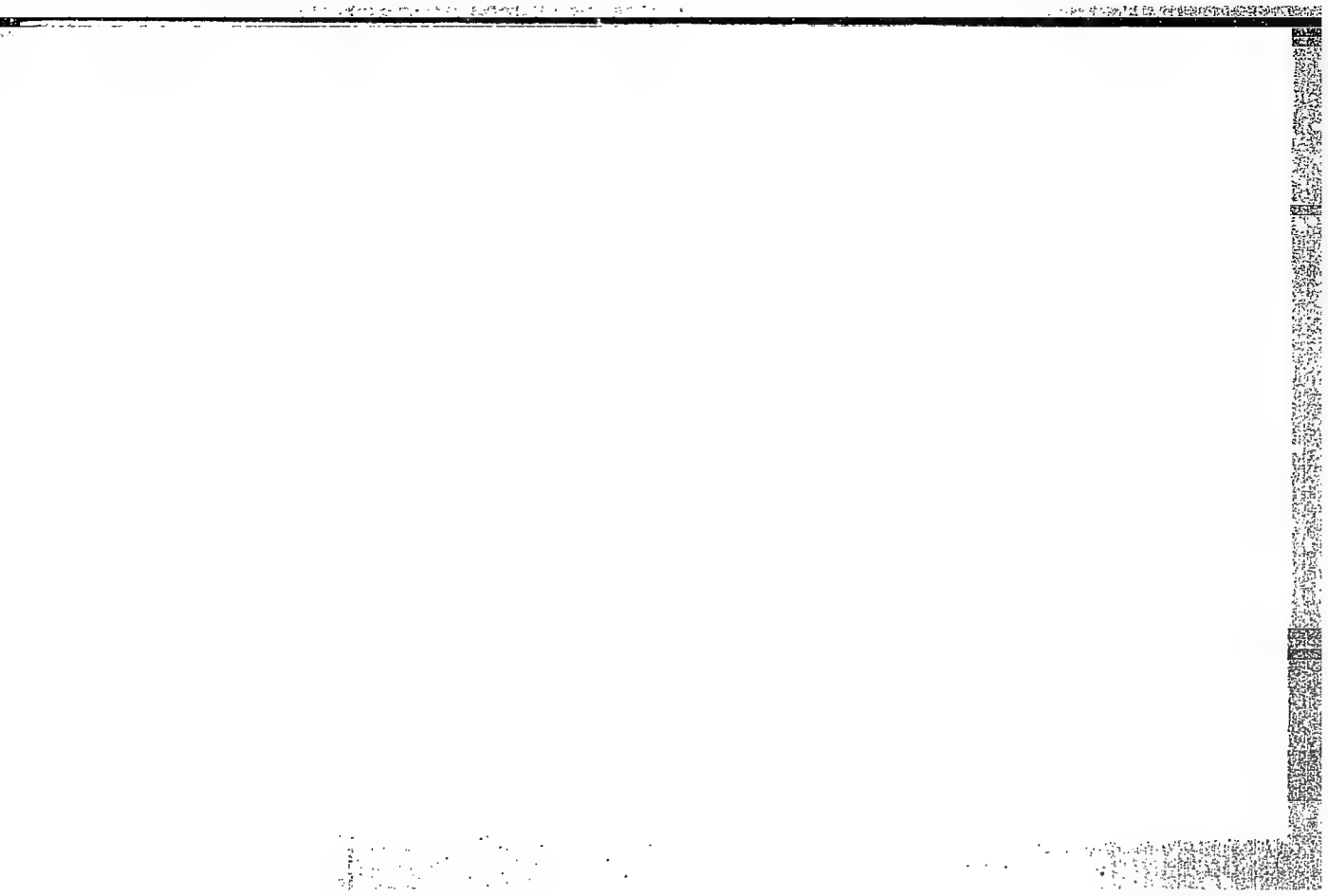

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L 2628-66 EWT(l)/EWP(m)/EWT(m)/EPF(c)/EWP(l)/ECS(k)/EWA(c)/ETC(m)/T WW/AW
ACC NR: AP5026684 SOURCE CODE: UR/0258/65/005/005/0830/0843

AUTHOR: Kuznetsov, V. M. (Moscow)

53
B

ORG: none

TITLE: Dissipative coefficients in highly nonequilibrium gas mixtures with binary collisions

SOURCE: Inzhenernyy zhurnal, v. 5, no. 5, 1965, 830-843

TOPIC TAGS: high temperature gas, dissociated gas, vibration relaxation, relaxing flow, degree of freedom, hypersonic flow, Boltzmann equation

ABSTRACT: The nonequilibrium process of two-temperature relaxation is investigated. A gas model which deals only with vibrations in addition to the translational degrees of freedom is considered. This choice is linked to the possibility of using the classical Boltzmann equation and to the fact that the laws of molecular collisions at various vibrational levels are better known than collisions in the presence of other degrees of freedom. The second approximation to the solution of Boltzmann equations is analyzed in detail in order to obtain expressions for the kinetic coefficients (diffusion, thermal diffusion, viscosity, and thermal conductivity) in the case of two-temperature relaxation. The results of the analysis are applied to the case of binary gas mixtures. It is stated that the main difficulty in calculating dissipative coefficients is that the quantum mechanical collision cross sections are not

UDC: 533.72

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L 2628-66

ACC NR: AP5026684

yet known for all degrees of freedom and the expressions for collision cross sections are quite complex; thus, the value of integrals in the entire range of temperatures should be calculated on a computer. It is shown that for two-temperature relaxation, the diffusion, thermodiffusion, viscosity, and heat conductivity are the same as in undisturbed gas, though λ_k depends on T_k to the extent that it differs from the quasi-equilibrium case in which the resonance effect is taken into account (where subscript k is related to vibrational degrees of freedom). Orig. art. has: 1 figure and 63 formulas. [AB]

SUB CODE: ME/ SUBM DATE: 020ct64/ ORIG REF: 006/ OTH REF: 013/ ATD PRESS: 4124

Card 2/2

SOKOLOVA, K.D.; KUZNETSOV, V.M.; TIKHOMIROVA, V.I.

Introducing cyanide cadmium plating using asymmetric current. Biul.tekh.-ekon.inform.Ges.nauch.-issl.inst.nauch.i tekh. inform.18 no.9:12-13 S '65. (MIRA 18:10)

L 4120-66 EWT(1)/EWP(m)/FCS(k)
ACC NR: AP5027218 SOURCE CODE: UR/0020/65/164/006/1249/1252

AUTHOR: Yegorov, B. V.; Zhigulev, V. N.; Kuznetsov, V. M.

ORG: Central Institute of Aerohydrodynamics im. N. Ye. Zhukovskiy (Tsentral'nyy aerogidrodinamicheskiy institut)

TITLE: On equations of aerodynamics in the presence of binary molecular processes

SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1249-1252

TOPIC TAGS: aerodynamics, gas kinetic equation, degree of freedom, gas relaxation, vibration relaxation, heat transfer, heat diffusion, thermal diffusion, gas viscosity

ABSTRACT: Processes taking place in gas flows with excited internal degrees of freedom are considered. The various methods and results obtained by different authors for solving hydrodynamic equations on the basis of the kinetic theory of gases are analyzed and discussed. A specific case called "two-temperature" relaxation is considered when $l_t \sim l_i \ll l_{ti} \sim L$, where l_t and l_i are the lengths required to establish equilibrium in translational and internal degrees of freedom, respectively, l_{ti} is the length of relaxation region, and L is the characteristic dimension of a body. Expressions for the dissipative coefficients (viscosity, diffusion, and thermal diffusion) are derived, and the influence of the resonance transitions on heat conductivity is evaluated. The results obtained for O_2, N_2, Cl_2, and I_2 show the strong influence of nonequilibrium on the magnitude of the heat flux. Orig. art. has: 2 figures. [AB]

Card 1/2

KUZNETSOV, V. M., Cand Tech Sci -- (diss) "Separation of helium (He_3-He_4) isotopes by fractionation and thermo-osmosis." Mos, 1957. 9 pp (Acad Sci USSR, Inst of Physical Problems im S. I. Vavilov), 130 copies. Bibliography: p 9 (19 titles) (KL, 1-58, 118)

KUZNETSOV, V.M.

USSR/Atomic and Molecular Physics - Low-Temperature Physics

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 788

Author : Kuznetsov, V.M.

Inst : Institute of Physics Problems, Academy of Sciences, USSR

Title : Separation of Helium Isotopes by Rectification and Thermo-Osmosis.

Or' Pub : Zh. eksperim. i teor. fiziki, 1957, 32, No 5, 1001-1011

Abstract : The author analyzes the fundamental characteristics of the processes of rectification of mixtures of He^3-He^4 and their enrichment with the aid of the thermomechanical effect (thermo-osmosis). The effectiveness of the packing column is experimentally determined for various pressures and velocities of the vapor in a non-extractive mode. The dependence of the height of unit transfer on the Reynolds number (both for vapor) turns out to be stronger than

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Abs Jour : Ref Zhur - Fizika, No 1, 1958, 788

expected, this apparently being due to the deterioration in the distribution of the liquid over the packing at low thermal loads of the column. As the pressure is reduced (for constant Reynolds number) the effectiveness of the column increases. Under the experimental conditions, a relation that agrees with experiment has been obtained for the connection between the height of the transfer unit and the parameter β, that characterizes the effectiveness of the column in the equations derived by V.P. Peshkov (Referat Zhur Fizika, 1956, No 12, 34428). The determination of the velocity of the vapor, causing percolation (U) leads to a dependence of U and φ / φ_ℓ (φ — is the vapor density, and φ_ℓ — is the liquid density), close to the theoretical expression for a film column (Kapitza P.L., Zh. eksperim i teor fiziki, 1948, 18, 3, 19). Also determined is the retaining ability of the packing for various loads in non-extracting operation. In experiments on thermo-

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Abs Jour : Ref Zhur - Fizika, No 1, 1958, 788

-osmosis, a filter of the same type as in the work by Peshkov (Referat Zhur Fizika, 1957, No 2, 3526) was used. The greater the temperature drop on the ends of the filter, the higher its output (for a constant solution concentration). As the concentration is increased, the output diminishes, and therefore the application of thermo-osmosis for the enrichment of solutions with concentrations ≥ 4 -- 5% is not advisable. A combination of thermo-osmosis and rectification makes it possible to obtain He^3 of high purity. With this, the extraction rate may reach the order of several normal liters of He^3 per hour, and the amount of uncompleted product does not exceed 200 -- 300 normal cm^3 of He^3. Also considered is a circuit of a double-beam mass-spectrometric gas analyzer for continuous analysis of mixtures with concentration 0.2 -- 99.8% He^3. The instrument operates with pulsating ion current. The relative accuracy of the analysis is $\pm$ 5%.

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USSR/Atomic and Molecular Physics - Low-Temperature Physics

Abs Jour : Ref Zhur - Fizika, No 1; 1958, 788

The output apparatus shows directly the concentration of the mixture He_3/He_4.

Bibliography, 30 titles.

Card 4/4

Kuznetsov, V.M.

PHASE I BOOK EXPLOITATION SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke, Moscow, 1957

Polucheniye izotopov. Moshchnyye gamma-ustanovki. Radiometriya i dozimetriya; trudy konferentsii... (Isotope Production. High-energy Gamma-Radiation Facilities. Radiometry and Dosimetry; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science) Moscow, Izd-vo AN SSSR, 1958. 293 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR; Glavnoye upravleniye po ispol'zovaniyu atomnoy energii SSSR.

Editorial Board: Frolov, Yu.S. (Resp. Ed.), Zhavoronkov, N.M. (Deputy Resp. Ed.), Aglintsev, K.K., Alekseyev, B.A., Bochkarev, V.V., Leshchinskiy, N.I., Malkov, T.P., Sinitsyn, V.I., and Popova, G.L. (Secretary); Tech. Ed.: Novichkov, N.D.

PURPOSE: This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

COVERAGE: Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes 2) high-energy gamma-radiation facilities, and 3) radiometry and dosimetry.

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L 10843-67 EWP(m)/EWT(1) WW

ACC NR: AR6034730 (A) SOURCE CODE: UR/0124/66/000/008/V039/V039 2/

AUTHOR: Kuznetsov, V. M.

TITLE: Effect of initial disturbances on the process of destruction by explosion

SOURCE: Ref. zh. Mekhanika, Abs. 8V289

REF SOURCE: Tr. V Sessii Uch. soveta po narodnokhoz. ispol'z. vzryva. Frunze, Ilim, 1965, 67-73

TOPIC TAGS: explosion, incompressible fluid, destruction, disturbance

ABSTRACT: Theoretical and experimental investigation is made of the effect of initial disturbances on the destruction process of an explosion. In experimental investigations with the aid of x-ray photography, analysis was made of the effect of an external cylindrical groove on a copper ring filled from within with an explosive material (depth of groove is equal to half the thickness of the ring). During the tests, it was noted that "the initial disturbance of the shape of the sample has no significant effect on the nature of destruction." In theoretical calculations, the problem is examined for the motion of an ideal incompressible fluid, filling an infinite band symmetrical to one of the axes of the coordinates for given velocities

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L 10843-67
ACC NR: AR6034730

at the initial moment. The solution reveals the resistance to specific types of disturbances. Ye. I. Shemyakin. [Translation of abstract]

SUB CODE: 13/

Card 2/2

L 31542-66 EWT(1)/EWT(m)/EWP(c)/T IJP(c) JAJ

ACC NR: AP6009061 SOURCE CODE: UR/0207/66/000/001/0124/0126

AUTHOR: Kuznetsov, V. M. (Novosibirsk); Lugovtsov, B. A. (Novosibirsk); Sher, Ye. I. (Novosibirsk)

ORG: none

4.6
47
B

TITLE: The motion of gas bubbles in a fluid affected by a temperature gradient

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 1, 1966, 124-126

TOPIC TAGS: temperature dependence, gas bubble, gas mechanics, viscous fluid, temperature gradient

ABSTRACT: The authors investigate the motion of a gas bubble which is due to the action of surface tension in a weightless viscous fluid with a temperature gradient. A theory is proposed for the steady-state motion of a bubble in a field with a constant temperature gradient in the case of small Reynolds numbers. The experimental results presented agree qualitatively with the theory. It is noted that in view of the difficulties due to the presence of gravity, which caused convective motion of the liquid and the emersion of the bubbles, the experiment is qualitative in nature. The results of the experiment are given in a figure. The bubble at rest started moving 5-6 sec after heating began, and, expanding as a result of vaporization, moved toward the higher temperature. Thus, the experiment agrees with the theory. The editor remarks in a footnote that prior to publication of this article, the

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L 31542-66

ACC NR: AP6009061

present authors became aware of the work of N. O. Young, L. S. Goldstein, and M. J. Block (The motion of bubbles in a vertical temperature gradient. J. of Fluid mechanics, 1959, vol. 6, p. 3), but the editor was unable for technical reasons to hold up the publication of this article for the present authors to compare their results with those of the work of Young et al. The authors thank M. A. Lavrent'yev for a statement of the problem and constant attention to this work. Orig. art. has: 1 figure and 11 formulas.

SUB CODE: 20 / SUBM DATE: 02Aug65 / ORIG REF: 002

Card 2/2 LC

KUZNETSOV, V. M.

35222

Flora Stepey Selenginskogo Rayona. (Buryatmongol. ASSR). Trudy Glav.

B otan Sada, T. 1, 1949, s. 99-106.-B ibliogr:14 nazv

SO: Letopis'Zhurnal'nykh Statey, Vol. 34, Moskva, 1949

38041. KUZNETSOV, V. M.

Altayskaya ekspeditsiya Glednogo botaniche-skogo sada Akademii nauk SSSR. /1948 g) Byulleten' Glav. botan sada, vyp. 4, 1949, s. 34-38

KUZNETSOV, V. M.

Grasses

Significance of trans-Baikal bistort as feed., Korm. baza, 2, no. 12, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1952, Uncl.

KUZNETSOV, V.M.

Cultivation of Polygonum divaricatum L. Biul.Glav.bot.sada no.14:62-67 '52. (MLRA 6:5)

1. Glavnyy botanicheskiy sad Akademii Nauk SSSR. (Polygonacae)

KUZNETSOV, V.M.

Significance of the ecological-historical method in the study of wild plants for purposes of introducing them to cultivation. Biul.Glav.bot. sada no.20:24-29 '55. (MIRA 8:9)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Plant introduction)

KUZNETSOV, Vasiliy Mikhaylovich; KUL'TIASOV, M.V. professor, otvetstvennyy redaktor; BOGDANOV, A.I., redaktor izdatel'stva; NOVIKOVA, S.G., tekhnicheskiy redaktor.

[Transbaikal Knotweed and prospects for introducing it into cultivation] Gorets zabaikal'skii i perspektivy ego vvedeniia v kul'turu. Moskva, Izd-vo Akad.nauk SSSR, 1957. 90 p. (MLRA 10:5)
(Transbaikalia--Knotweed)

30(1)
AUTHOR: Kuznetsov, V. M., Candidate of Biological Sciences

SOV/30-58-12-8/46

TITLE: Fodder and Tannin Plant of High Value (Tsennoye kormovoye i dubil'noye rasteniye)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 12, pp 36-37 (USSR)

ABSTRACT: The Transbaykalskiy snake-weed plant (gorets zabaykal'skiy) (Polygonum divaricatum L.) is a perennial gramineous plant from the family of buckwheat. Its overground part is a succulent fodder for cattle, its root containing tannins, and its grains, which are similar to those of buckwheat, can be used as fodder for poultry. Silo-fodder from snake-weed is liked by horned cattle and sheep. As became evident from analyses made by the Tsentral'nyy nauchno-issledovatel'skiy institut kozhevennoy promyshlennosti (Central Scientific Research Institute of Leather Industry) this plant excels all wood and grass kinds used up to now in the content of tannin, the preparation costs of this tannin being much lower than those of the tannin obtained from the barks of oaks, firs or willows. Experiments with the introduction of this plant have been carried out since 1939 in the Kolkhoz im. A. A.

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Fodder and Tannin Plant of High Value

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Zhdanov of the Buryatskaya ASSR and in the territory of the Glavnyy botanicheskiy sad Akademii nauk SSSR v Moskve (Central Botanic Gardens of the AS USSR in Moscow) and others. It is recommended to grow this plant in the zone of coniferous and mixed forests. At present the cultivation of snake-weed is carried out in the botanic gardens "Snegiri" and its fodder value is being examined. In the agriculture of the Shumerlinskiy zavod dubil'nykh ekstraktov Chuvashskoy ASSR (The Shumerlya Tannin Extraction Plant [illegible] of the Chuvashskaya ASSR) the profitableness of its application in mass production under factory conditions is being investigated.

Card 2/2

KUZNETSOV, V. M.: Doc Agric Sci (diss) -- "Transbaykal bistort and the outlook for introducing it into cultivation". Moscow, 1959, published by the Acad Sci USSR. 26 pp (Leningrad Agric Inst, Main Botanical Garden, Acad Sci USSR), 185 copies (KL, No 13, 1959, 108)

KUZNETSOV, V.M.

Zonal experiments in studying problems of plant introduction. Biul. Glav. bot. sada no.34:29-31 '59. (MIRA 13:3)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Plant introduction)

VOROSHILOV, V.N.; DAYEVA, O.V.; YEVTYUKHOVA, M.A.; YEGOROVA, Ye.M.; KUZNETSOV, V.M.; KUL'TIASOV, M.V.; NEKRASOV, A.A.; SUKOVA, V.P.; TARASOVA, T.I. Prinimali uchastiye BELOVAYA, Yu.N.; KHRYCHEVA, G.P.; TSITSIN, N.V., akademik, otv. red.; ASTROV, A.V., red. izd-va; LAUT, V.G., tekhn.red.

[Native plants of the U.S.S.R.; brief summary of introduction work in the Main Botanical Garden of the Academy of Sciences of the U.S.S.R.] Rasteniia prirodnoi flory SSSR; kratkie itogi introduktsii v Glavnom botanicheskom sadu Akademii nauk SSSR. Moskva, Izd-vo Akad. nauk SSSR, 1961. 359 p. (MIRA 15:3)

1. Moscow. Glavnyy botanicheskiy sad.
(Plant introduction) (Moscow--Botanical gardens)